Chapter 9

Communications and Networks

Multiple Choice

1. Connectivity is a concept related to

a) transmitting information, either by computer or by phone

b) the interconnections within a computer

c) using computer networks to link people and resources

d) being in an active session with your computer

Answer: C

Difficulty level: Medium

Page: 236

Response: Connectivity is a concept related to using computer networks to link people and resources.

2. One of the most dramatic changes in connectivity and communications in the past five years has been ________.__

a) mobile or wireless telephones

b) public and private discussion

c) satellite uplinks

d) running programs on remote computers

Answer: A

Difficulty level: Medium

Page: 236

Response: The most dramatic changes in connectivity and communications in the past five years have been the widespread use of mobile or wireless telephones.

3. The four basic elements of any communication system include

a) peer-to-peer, videoconferencing, online photo-conferencing, net optical

b) sending and receiving devices, communication channel, connection device, and data transmission specifications

c) telephone lines, coaxial cables, fiber-optics cables, and communication channel

d) software, hardware, communication channel, network

Answer: B

Difficulty level: Medium

Page: 237

Response: Four elements include sending/receiving devices, communication channels, connection devices, and data transmission specifications.

4. An older type of data communications channel, using multiple copper wires, is called ________ technology.

a) microwave

b) fiber-optic cable

c) coaxial cable

d) twisted pair

Answer: D

Difficulty level: Easy

Page: 238

Response: Twisted pair technology is the oldest type. It has traditionally been used for telephones.

5. A communications channel that is made up of a single copper core with a ground sheath around it is called a ________.

a) twisted pair channels

b) microwave

c) coaxial cable

d) fiber-optic cable

Answer: C

Difficulty level: Medium

Page: 238

Response: A coaxial cable is made up of a single copper core with a ground sheath around it.

6. Data is transmitted using light through a(n) ________ cable.

a) twisted pair

b) fiber-optic

c) coaxial

d) microwave

Answer: B

Difficulty level: Medium

Page: 238

Response: Fiber-optic cable transmits data as pulses of light through tiny tubes of glass.

7. Which physical connection is the fastest?

a) twisted pair

b) coaxial cable

c) fiber-optics

d) microwaves

Answer: C

Difficulty level: Medium

Page: 238

Response: Fiber-optic cable is faster than the other three types of communications mediums.

8. Communication in a straight line is accomplished using ________.

a) twisted pairs

b) fiber-optics

c) coaxial cables

d) infrared

Answer: D

Difficulty level: Medium

Page: 238

Response: Infrared is often referred to as line of sight communication because the light waves can only travel in a straight line.

9. Most Web-enabled devices follow a standard known as

a) FireWire

b) Bluetooth

c) TCP/IP

d) Wi-FI

Answer: D

Difficulty level: Medium

Page: 239

Response: Most Web-enabled devices follow a standard known as Wi-FI.

10. A relatively new technology that allows wireless connectivity is called ________.

a) Bluetooth

b) Blacktooth

c) Blueband

d) Broadband

Answer: A

Difficulty level: Easy

Page: 239

Response: Bluetooth is a relatively new technology that allows wireless connectivity.

11. Bluetooth is a type of radio wave information transmission system that is good for about

a) 30 feet

b) 30 yards

c) 30 miles

d) 300 miles

Answer: A

Difficulty level: Hard

Page: 239

Response: Bluetooth is good for about 30 feet.

12. The telephone is an example of a(n) ________ signal.

a) analog

b) digital

c) modulated

d) demodulated

Answer: A

Difficulty level: Easy

Page: 240

Response: A telephone is an example of an analog signal.

13. A credit card-sized expansion board that is inserted into portable computers that connects the modem to the telephone wall jack is the ________.

a) Internal modem

b) External modem

c) PC Card modem

d) Wireless modem

Answer: C

Difficulty level: Medium

Page: 240

Response: The PC Card modem is a credit card-sized expansion board that is inserted into portable computers that connects the modem to the telephone wall jack.

14. A modem that is contained within the system unit is called a(n) ________ modem.

a) external

b) internal

c) wireless

d) WiFI

Answer: B

Difficulty level: Easy

Page: 240

Response: A modem contained within the system unit is an internal modem.

15. A modem that doesn't need to be connected to a telephone line is the ________ modem.

a) external

b) internal

c) wireless

d) DSL

Answer: C

Difficulty level: Easy

Page: 240

Response: A wireless modem does not need to be connected to a telephone line.

16. A special high-speed line used by large corporations to support digital communications is known as

a) satellite/air connection service lines

b) cable modems

c) digital subscriber lines

d) T1, T2, T3 and T4 lines

Answer: D

Difficulty level: Medium

Page: 240

Response: Special high-speed lines are known as T1, T2, T3, and T4 lines.

17. An affordable technology that uses existing telephone lines to provide high-speed connections is called ________.

a) ISDN

b) microwave

c) cable modem

d) DSL

Answer: D

Difficulty level: Medium

Page: 241

Response: DSL uses existing telephone lines to provide high-speed connections.

18. The capacity of a communication channel is measured in

a) bandwidth

b) bit capacity

c) baud rate

d) data flow

Answer: A

Difficulty level: Medium

Page: 241

Response: Bandwidth is a measurement of the width or capacity of the communication channel.

19. Voiceband ________

a) allows the user to download messages

b) is used for standard telephone communication

c) is used in special leased lines to connect minicomputers and mainframes

d) provides a high-speed communication channel

Answer: B

Difficulty level: Medium

Page: 241

Response: Voiceband is used for standard telephone communication.

20. The greatest capacity for data transmission happens in ________ devices.

a) voiceband

b) medium band

c) broadband

d) mega-band

Answer: C

Difficulty level: Hard

Page: 242

Response: Broadband is the bandwidth used for high-capacity transmissions.

21. The rules for exchanging data between computers are called

a) interconnections

b) synchronous packages

c) protocols

d) data transmission synchronization

Answer: C

Difficulty level: Medium

Page: 242

Response: Protocols are the rules for exchanging data between computers.

22. The standard protocol for the Internet is

a) TCP

b) IP protocol

c) IP address

d) TCP/IP

Answer: D

Difficulty level: Medium

Page: 242

Response: The standard protocol for the Internet is TCP/IP.

23. ________ is the process of breaking down information sent or transmitted across the Internet into small parts called packets.

a) protocol

b) bandwidth

c) reformatting

d) identification

Answer: C

Difficulty level: Medium

Page: 242

Response: Before a message is sent, it is reformatted or broken down into small parts called packets.

24. The systems developed to automatically translate text-based addresses to numeric IP addresses is called

a) DSL

b) DNS

c) SNL

d) SDN

Answer: B

Difficulty level: Hard

Page: 242

Response: DNS converts text-based addresses to IP addresses.

25. A computer network must contain at least this number of computers.

a) two

b) a few

c) twenty

d) hundreds

Answer: A

Difficulty level: Easy

Page: 243

Response: A computer network must contain at least two computers.

26. Two or more computers connected so that they can communicate with each other and share information is called a

a) satellite

b) protocol

c) broadcast

d) network

Answer: D

Difficulty level: Medium

Page: 242

Response: Two computers connected together are called a network.

27. Any device that is connected to a network is called a

a) client

b) node

c) server

d) manager

Answer: B

Difficulty level: Medium

Page: 243

Response: Any device that is connected to a network is called a node.

28. A device, connected to a network, that requests resources available from other devices is called a

a) client

b) server

c) host

d) NOS

Answer: A

Difficulty level: Medium

Page: 243

Response: A client is a node that requests and uses resources available from other nodes.

29. A device, connected to a network, that shares resources with other nodes is called a

a) client

b) server

c) host

d) NOS

Answer: B

Difficulty level: Medium

Page: 243

Response: A server is a node that shares resources with other nodes.

30. The acronym NOS refers to the

a) operating system on the clients

b) Network order system, or topology

c) operating system of the network

d) network architecture

Answer: C

Difficulty level: Medium

Page: 243

Response: NOS is an acronym for network operating system.

31. A network of devices in close physical proximity is called a

a) LAN

b) WAN

c) MAN

d) WLAN

Answer: A

Difficulty level: Easy

Page: 244

Response: A network of devices in close physical proximity is called a local area network (LAN).

32. A small network setup in your home is called a

a) hub network

b) center network

c) station network

d) local area network

Answer: D

Difficulty level: Easy

Page: 245

Response: A small network setup in the home would be a local area network.

33. A network that spans a nation or the world is called a

a) LAN

b) WAN

c) MAN

d) SPAN

Answer: B

Difficulty level: Easy

Page: 245

Response: A network that is countrywide and worldwide is a wide area network (WAN).

34. A network ________ describes how a computer network is configured and what strategies are employed.

a) protocol

b) NOS

c) architecture

d) connection

Answer: C

Difficulty level: Easy

Page: 248

Response: Network architecture describes how a network is arranged and how resources are coordinated and shared.

35. The arrangement of the computers in a network is called the

a) NOS

b) topology

c) node layout

d) protocol

Answer: B

Difficulty level: Medium

Page: 248

Response: The arrangement of a network is called the network's topology.

36. A network configuration in which each computer is attached to a central unit is called a(n) ________ network.

a) star

b) bus

c) hybrid

d) hierarchical

Answer: A

Page: 248

Response: In a star network, a number of small computers or peripheral devices are linked to a central unit.

37. The most common network strategies are ________

a) star, ring, bus, hierarchical

b) terminal, peer-to-peer, client server

c) topology, protocol, architecture

d) host, client, terminal

Answer: A

Difficulty level: Medium

Page: 249

Response: The most common network strategies are the star, ring, bus, and hierarchical.

38. A way of coordinating the sharing of information and resources is called a network ________.

a) topology

b) strategy

c) protocol

d) architecture

Answer: B

Difficulty level: Medium

Page: 250

Response: A strategy is a way of coordinating the sharing of information and resources.

39. A network configuration in which each device is attached to a common connecting cable is called a ________ network.

a) star

b) bus

c) ring

d) hierarchical

Answer: B

Difficulty level: Medium

Page: 249

Response: In a bus network all communications travel along a common connecting cable called a bus.

40. A network in which the central computer is a host to a cluster of other computers that in turn are hosts is called a(n) ________ network.

a) star

b) bus

c) ring

d) hierarchical

Answer: D

Difficulty level: Medium

Page: 249

Response: A hierarchical network consists of several computers linked to a central host computer.

41. If the majority of the processing power is centralized in one large computer and the nodes connected to it have little or no processing capability, it is called a(n) ________ network.

a) hybrid

b) terminal

c) peer-to-peer

d) hierarchical

Answer: B

Difficulty level: Medium

Page: 250

Response: In a terminal network system, processing power is centralized in one large computer, usually a mainframe.

42. If the nodes can serve as both servers and clients, the network is said to be

a) hybrid

b) terminal

c) peer-to-peer

d) hierarchical

Answer: C

Difficulty level: Medium

Page: 252

Response: In a P2P network, the nodes have equal authority and can act as both clients and servers.

43. A private network within an organization is called a(n)

a) local net

b) extranet

c) Internet

d) intranet

Answer: D

Difficulty level: Medium

Page: 249

Response: An intranet is like a private network within an organization that resembles the Internet.

44. A private intranet that is accessible to authorized outsiders best describes a(n)

a) extranet

b) private network

c) electronic market space

d) local area network

Answer: A

Difficulty level: Medium

Page: 249

Response: An extranet is a private network that connects more than one organization.

45. A(n) ________ protects an organization's network from outside attack.

a) fortress

b) extranet

c) proxy

d) firewall

Answer: D

Difficulty level: Easy

Page: 249

Response: A firewall protects an organization's network from outside attack.

True/False

46. Connectivity is a concept related to using computer networks to link people and resources.

Answer: True

Difficulty level: Easy

Page: 236

Response: Connectivity is a concept related to using computer networks to link people and resources.

47. All communication channels must have physical connections.

Answer: False

Difficulty level: Easy

Page: 237

Response: Communications channels can also be wireless.

48. Fiber-optic cable transmits data as pulses of light.

Answer: True

Difficulty level: Medium

Page: 238

Response: Fiber-optic cable transmits data as pulses of light through tiny tubes of glass.

49. Most telephone lines are coaxial cable.

Answer: False

Difficulty level: Easy

Page: 238

Response: Most telephone lines use twisted-pair wiring.

50. Microwave communication uses high frequency radio waves.

Answer: True

Difficulty level: Medium

Page: 239

Response: Microwave communication uses high frequency radio waves.

51. Microwaves bend with the curvature of the earth.

Answer: False

Difficulty level: Medium

Page: 239

Response: Microwaves do not bend with the curvature of the earth.

52. Computers use digital signals to communicate within the system unit.

Answer: True

Difficulty level: Medium

Page: 240

Response: Computers send and receive digital signals.

53. Demodulation is the process of converting digital signals to analog.

Answer: False

Difficulty level: Medium

Page: 240

Response: Demodulation is the process of converting analog signals to digital signals.

54. Communication speed is measured in bits per second.

Answer: True

Difficulty level: Medium

Page: 240

Response: Communication speed is measured in bits per second.

55. An external modem stands apart from the computer and typically is connected by a cable plugged into a serial port.

Answer: True

Difficulty level: Easy

Page: 240

Response: An external modem is separate from the computer and is typically connected by a cable.

56. T1, T2, T3 and T4 lines support all digital communications and provide very high-speed capacity.

Answer: True

Difficulty level: Easy

Page: 240

Response: T1, T2, T3, and T4 lines all support high-speed capacity.

57. Cable modems are as fast as T1 lines or DSL connections, at a lower cost.

Answer: True

Difficulty level: Medium

Page: 241

Response: Cable modems are as fast as T1 and DSL connections and are less expensive.

58. Cable modems are slower than regular modems but more reliable.

Answer: False

Difficulty level: Medium

Page: 240

Response: Cable modems are much faster than regular modems and are more reliable.

59. The term bandwidth refers to the measurement of the capacity of the communication channel.

Answer: True

Difficulty level: Medium

Page: 241

Response: Bandwidth is a measurement of the width or capacity of the communication channel.

60. Voiceband is the slowest data transmission bandwidth.

Answer: True

Difficulty level: Medium

Page: 241

Response: Voiceband is very slow and is mainly used for standard telephone communications.

61. The channel with the greatest bandwidth is called broadband.

Answer: True

Difficulty level: Medium

Page: 242

Response: Broadband is the bandwidth used for high-capacity transmission.

62. The essential features of the TCP/IP protocol involve identifying, sending and receiving devices, and reformatting information for transmission across the Internet.

Answer: True

Difficulty level: Medium

Page: 242

Response: TCP/IP involves all of these characteristics.

63. The set of rules that governs data transmission is called prototype.

Answer: False

Difficulty level: Medium

Page: 242

Response: The set of rules that governs data transmission is called protocols.

64. The standard protocol for the Internet is TCP/IP (transmission control protocol/Internet protocol).

Answer: True

Difficulty level: Easy

Page: 242

Response: The standard protocol for the Internet is TCP/IP.

65. Reformatting refers to breaking information into small parts called packets.

Answer: True

Difficulty level: Medium

Page: 242

Response: Before a message can be sent, it must be reformatted or broken down into small parts called packets.

66. A TCP converts text-based addresses to numeric IP addresses.

Answer: False

Difficulty level: Medium

Page: 242

Response: A DNS system converts text-based addresses to IP addresses.

67. On a network, a server can be a node.

Answer: True

Difficulty level: Medium

Page: 243

Response: A node is any device that is connected to a network.

68. In a network environment, a client provides resources for the servers.

Answer: False

Difficulty level: Medium

Page: 243

Response: A client is a node that requests and uses resources available from other nodes.

69. The NOS controls and coordinates the activities of all computers and other devices on a network.

Answer: True

Difficulty level: Medium

Page: 243

Response: Network operating systems control and coordinate the activities of all computers and other devices on a network.

70. A host computer is generally a centralized, mini or mainframe that provides resources and processing for several terminals.

Answer: True

Difficulty level: Medium

Page: 243

Response: A host computer is a large centralized computer, usually a minicomputer or a mainframe.

71. A LAN can benefit a company by allowing workers to share equipment like printers and file servers.

Answer: True

Difficulty level: Easy

Page: 244

Response: LANs provide companies with these benefits.

72. LANs can be connected to other LANs using a gateway.

Answer: True

Difficulty level: Medium

Page: 244

Response: LANs can be connected to other LANs using a network gateway.

73. The Internet is an example of a LAN.

Answer: False

Difficulty level: Easy

Page: 244

Response: The Internet is an example of a WAN.

74. The primary difference among LAN, WAN, and MAN is the geographic range.

Answer: True

Difficulty level: Medium

Page: 245

Response: The primary difference among a LAN, WAM, and MAN is the geographic range.

75. In a LAN environment a network gateway device can connect several groups even if their configurations are different.

Answer: True

Difficulty level: Medium

Page: 244

Response: A network gateway device can connect several groups even if their configurations are different.

76. A network that connects buildings within a city is called a MAN.

Answer: True

Difficulty level: Medium

Page: 245

Response: MANs are used to connect office buildings within a city.

77. A WAN can benefit a company by allowing workers to share equipment like printers and file servers.

Answer: False

Difficulty level: Medium

Page: 245

Response: LANs provide these benefits to companies – not WAN.

78. The arrangement and coordination of resources in a network is described by its architecture.

Answer: True

Difficulty level: Medium

Page: 248

Response: Network architecture describes how a network is arranged and how resources are coordinated and shared.

79. The topology of a network is the arrangement of the computers within it.

Answer: True

Difficulty level: Medium

Page: 248

Response: A topology describes how a network can be arranged or configured.

80. When all the terminal devices are connected to a central unit, the configuration is called a ring network.

Answer: True

Difficulty level: Medium

Page: 248

Response: When all terminal devices are connected to a central unit, the configuration is called a ring network.

81. In a distributed data processing system, computers can perform processing tasks at their own dispersed locations, and they can also share programs, data, and other resources with each other.

Answer: True

Difficulty level: Medium

Page: 249

Response: In a distributed data processing system, computers can perform processing tasks at their own dispersed locations, and they can also share programs, data, and other resources with each other.

82. Strategies are sets of communication rules for the exchange of information.

Answer: False

Difficulty level: Medium

Page: 250

Response: Strategy is a way of coordinating the sharing of information and resources.

83. In a peer-to-peer network, only the central host computer supplies the resources, the other computers request resources from this host.

Answer: False

Difficulty level: Medium

Page: 252

Response: In a P2P network all nodes have equal authority and can act as both clients and servers.

84. An intranet is a private network within an organization that resembles the Internet.

Answer: True

Difficulty level: Easy

Page: 253

Response: An intranet is a private network within an organization that resembles the Internet.

85. A proxy server is a security system designed to protect an organization's network against external threats.

Answer: False

Difficulty level: Easy

Page: 253

Response: A firewall is a security system designed to protect an organization's network against external threats.

Fill-In-The-Blank

86. The concept of using your computer to connect with other computers to share resources is known as ________.

Answer: connectivity

Difficulty level: Medium

Page: 236

Response: Connectivity is a concept related to using computer networks to link people and resources.

87. Electronic systems that transmit data over communications lines from one location to another are called ________ systems.

Answer: communication

Difficulty level: Medium

Page: 237

Response: Communications is the process of sharing data, programs, and information between two or more computers.

88. In a communications environment, the actual connecting or transmission ________ carries the message.

Answer: medium

Difficulty level: Hard

Page: 238

Response: The actual connecting or transmission medium carries the message.

89. Telephone lines are made up of hundreds of copper wires called ________ cable.

Answer: twisted-pair

Difficulty level: Easy

Page: 238

Response: Telephone lines are composed of twisted-pair cables.

90. A high-frequency cable that has a solid copper core and an outer shield is called ________ cable.

Answer: coaxial

Difficulty level: Medium

Page: 238

Response: Coaxial cable is a high-frequency transmission medium that has a solid copper core.

91. ________ cable is a transmission medium that transmits data as pulses of light through tiny tubes of glass.

Answer: Fiber-optic

Difficulty level: Medium

Page: 238

Response: Fiber-optic cable transmits data as pulses of light through tiny tubes of glass.

92. The technology ________ promises to allow a wide variety of nearby devices to communicate with one another without any physical connection.

Answer: Bluetooth

Difficulty level: Easy

Page: 239

Response: Bluetooth is a short-range wireless communication standard that promises to allow a wide variety of nearby devices to communicate without any physical connection.

93. In satellite communications, ________ is the term used to describe sending data.

Answer: uplink

Difficulty level: Medium

Page: 239

Response: Uplink is a term relating to sending data to a satellite.

94. A(n) ________ is a device that translates digital signals to analog, and also translates analog signals back to digital.

Answer: modem

Difficulty level: Easy

Page: 240

Response: A modem translates digital signals to analog and back again.

95. ________ is the term used to describe converting digital signals into analog signals.

Answer: Modulation

Difficulty level: Easy

Page: 240

Response: Modulation is the name of the process of converting from digital to analog.

96. The term used to describe the bits-per-second transmission capacity of a communication channel is ________.

Answer: bandwidth

Difficulty level: Medium

Page: 241

Response: Bandwidth is a measurement of the width or capacity of the communication channel.

97. The slowest channels, used for standard telephone communications, are called the ________ band or low bandwidth.

Answer: voice

Difficulty level: Medium

Page: 241

Response: Voiceband is the slowest type of channel and is used in standard telephone communication.

98. The rules for exchanging data between computers are known as ________.

Answer: protocols

Difficulty level: Medium

Page: 242

Response: Protocols are the rules for exchanging data between computers.

99. The standard protocol for the Internet is ________.

Answer: TCP/IP

Difficulty level: Easy

Page: 242

Response: The standard protocol for the Internet is TCP/IP.

100. Breaking down messages into small parts called packets is referred to as ________.

Answer: reformatting

Difficulty level: Hard

Page: 242

Response: Reformatting involves breaking down messages into small parts called packets.

101. The term ________ describes a node that requests and uses resources available from other nodes.

Answer: client

Difficulty level: Medium

Page: 243

Response: A client is a node that requests and uses resources available from other nodes.

102. A ________ describes the center or central node for other nodes. This device can be a server or simply a connection point for cables from other nodes.

Answer: hub

Difficulty level: Medium

Page: 243

Response: A hub is a device that describes the center or central node for other nodes.

103. A network ________ card describes an expansion card that is located within the system unit that connects the computer to a network.

Answer: interface

Difficulty level: Medium

Page: 243

Response: NIC is an expansion card located within a system that connects a computer to a network.

104. In a(n) ________ processing network, the computing power is located and shared at different locations.

Answer: distributed

Difficulty level: Medium

Page: 243

Response: In a distributed processing network, a system in which computing power is located and shared at different locations.

105. In a LAN environment a network ________ device can connect several groups even if their configurations are different.

Answer: gateway

Difficulty level: Hard

Page: 244

Response: A network gateway is a device that allows one LAN to be linked to other LANs or to larger networks.

106. A network of devices in close physical proximity is commonly called a(n) ________ area network.

Answer: local

Difficulty level: Easy

Page: 244

Response: A LAN is a network where the nodes are in close proximity to each other.

107. A network commonly used by individuals in their apartment would be referred to as a ________ network.

Answer: home

Difficulty level: Easy

Page: 245

Response: Networks used in the home or apartment would be called home networks.

108. A network of devices located in several buildings in the same town is called a(n) ________ area network.

Answer: metropolitan

Difficulty level: Medium

Page: 245

Response: A MAN connects devices that can be located in several buildings in the same town.

109. A network that spans countries or continents is called a(n) ________ area network.

Answer: wide

Difficulty level: Easy

Page: 245

Response: WANs are countrywide and worldwide.

110. The arrangement of the elements of a network is called the network's ________.

Answer: topology

Difficulty level: Medium

Page: 248

Response: Topology describes the arrangement or configuration of a network.

111. In a(n) ________ network, a number of small computers or peripheral devices are linked to a central computer.

Answer: star

Difficulty level: Medium

Page: 248

Response: A star network describes a number of small computers or peripheral devices linked to a central unit.

112. ________ is the term used on the Internet to deliver e-mail and to locate Web sites.

Answer: Polling

Difficulty level: Medium

Page: 248

Response: When all communications pass through a central unit, control is maintained by polling to determine whether it has a message to send.

113. Network ________ describes how a network is arranged as well as how the resources are shared.

Answer: architecture

Difficulty level: Medium

Page: 248

Response: Network architecture describes how a network is arranged and how resources are coordinated and shared.

114. In a(n) ________ network, all the devices are connected to a common, central cable.

Answer: bus

Difficulty level: Medium

Page: 249

Response: A bus network handles its own communications control.

115. The network in which each device is connected to two others is a(n)________ network.

Answer: ring

Difficulty level: Medium

Page: 249

Response: In a ring network each device is connected to one another.

116. A network design that links several networks of computers is called a(n) ________ network.

Answer: hierarchical

Difficulty level: Medium

Page: 249

Response: A hierarchical network consists of several computers linked to a central host computer.

117. In a(n) ________ network system, all the computing power is centralized in a single computer, usually a mainframe.

Answer: terminal

Difficulty level: Hard

Page: 250

Response: In terminal network systems, the processing power is centralized in one large computer, usually a mainframe.

118. Every network has a ________, or way of coordinating the sharing of information and resources.

Answer: strategy

Difficulty level: Medium

Page: 250

Response: All networks have a strategy for coordinating the sharing of information and resources.

119. When one computer in a network supplies the software or other services to the rest of the devices in the network, the network system is ________.

Answer: client/server

Difficulty level: Medium

Page: 251

Response: A client/server network system uses one computer to coordinate and supply services to other nodes on the network.

120. This popular client/server network system (________) was widely used on the Internet to download music files.

Answer: Napster

Difficulty level: Easy

Page: 251

Response: Napster was a popular client/server network used to download music files.

121. If nodes in the network have equal authority and can act as either a client or a server, the network system is called ________.

Answer: peer-to-peer

Difficulty level: Medium

Page: 252

Response: In a P2P system, nodes have equal authority and can act as both clients and servers.

122. ________ is a widely used peer-to-peer network system for sharing all kinds of files including music files. It does not have a central server.

Answer: Gnutella

Difficulty level: Hard

Page: 248

Response: Gnutella is the P2P network system that does not use a central server.

123. An ________ is a private network within an organization.

Answer: intranet

Difficulty level: Easy

Page: 253

Response: An intranet is a private network within an organization.

124. General Motors has thousands of suppliers for the parts that go into making an automobile. They are most likely using an ________ to connect to all of these organizations.

Answer: extranet

Difficulty level: Easy

Page: 253

Response: An extranet is a private network that connects more than one organization.

125. A _________ consists of hardware and software that control access to a company's intranet and other internal networks.

Answer: firewall

Difficulty level: Easy

Page: 248

Response: A firewall consists of hardware and software that control access to a company's intranet or other internal resources.

Essay

126. Define connectivity.

Answer: Connectivity is a concept related to using computer networks to link people and resources. You can connect your microcomputer by telephone or other telecommunications links to other computers and information sources almost anywhere.

Difficulty level: Medium

Page: 236

127. Compare the high capacity connections: DSL, cable modems, and satellite/air connection.

Answer: Digital subscriber lines (DSL) use existing telephone lines to provide high- speed connections. This technology is widely available in most areas. Cable modems use existing television cables to provide high-speed connections as fast as DSL but at a lower cost. Satellite/air connection services use satellites and the air to download or send data to users at a range seven times faster than dial-up connections. These can be slower than DSL and cable modems.

Difficulty level: Hard

Page: 239, 241

128. Explain the difference between analog and digital signals.

Answer: Analog signals are continuous wave-like signals. Telephones send and receive data in the form of analog signals. Digital signals are discrete signals. Computers send and receive data in the form of digital signals.

Difficulty level: Easy

Page: 240

129. Explain what a network protocol is.

Answer: A network protocol is the set of rules that governs data transmission.

Difficulty level: Medium

Page: 242

130. List the two essential features of TCP/IP and what they do.

Answer: The two essential features of TCP/IP involve identifying sending and receiving devices, called Identification, and reformatting information for transmission across the Internet, breaking down the message into small parts called packets.

Difficulty level: Hard

Page: 242

131. Explain the following terms: node, client, server, and NOS.

Answer: A node is any device that is connected to a network. It could be a computer, printer, or data storage device. A client is a device that requests and uses resources from another computer. A server provides resources for the clients on a network. The NOS refers to the operating system of the network.

Difficulty level: Hard

Page: 243, 251

132. Describe the four basic elements of most communication systems.

Answer: Whether wired or wireless, every communication system has four basic elements. 1. Sending and receiving devices, which are often a computer or specialized communication devices. They accept and send messages. 2. Communication channel – the connecting medium that carries the message (physical wire or cable or wireless connection). 3. Connection devices – these act as an interface between the sending and receiving devices and the communication channel. They convert outgoing messages into a form and format so they can travel across the communication channel. 4. Data transmission specifications – rules and procedures that coordinate the sending and receiving devices by defining how the message will be sent.

Difficulty level: Hard

Page: 237

133. Describe the differences between the three major physical connection mediums: telephone lines, coaxial cable, and fiber-optic cable.

Answer: Telephone lines are made up of hundreds of copper wires. A single twisted pair culminates in a wall jack into which you can plug your phone and

computer. Coaxial cable is a high-frequency transmission cable made up of a single solid-copper core. Coaxial cable has over 80 times the transmission capacity of twisted pair and is used to deliver television signals as well as to connect computers in a network. Fiber-optic cable transmits data as pulses of light through tiny tubes of glass. Fiber-optic cable has over 26,000 times the transmission capacity of twisted pair. It is significantly smaller. Although limited in distance, fiber-optic cables are immune to electronic interference, are lighter and less expensive than coaxial cable, and are more reliable at transmitting data.

Difficulty level: Medium

Page: 238,239

134. Define the term topology and then list three common network topologies.

Answer: The topology of a network is the physical arrangement of the computers within it. The four principal network topologies are star, bus, ring, and hierarchical.

Difficulty level: Medium

Page: 248, 249

135. Explain the difference between a terminal network and a peer-to-peer network.

Answer: In a terminal network system, the computing power is centralized and the remote computers have little or no processing capability. In a peer-to-peer network, any computer in the network can be either a client or a server.

Difficulty level: Medium

Page: 250, 252